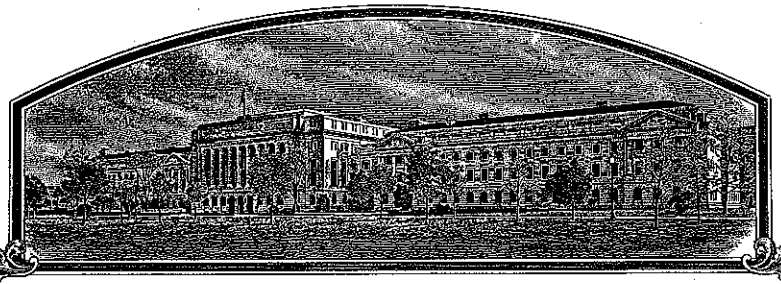
No. 200000268



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Frito-Lay North America, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO, IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

POTATO

'FL 1900'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this sixth day of February, in the year two thousand and seven.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
Frito-Lay North America, Inc.
SPA 8/2/05

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
RD 78-91-5

3. VARIETY NAME
FL 1900

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
7701 Legacy Drive
Plano, Texas 75024
SPA 8/2/05

5. TELEPHONE *(Include area code)*
972-334-3822

6. FAX *(Include area code)*
972-334-5965

FOR OFFICIAL USE ONLY

PVPO NUMBER
2000 00268

FILING DATE
06/08/2000 SPA

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
Delaware

9. DATE OF INCORPORATION
8/8/89

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Robert J. Jondle
Jondle & Associates, P.C.
858 Happy Canyon Road, Suit 230
Castle Rock, CO 80108
SPA 8/2/05 LMC 11-22-05

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2450.-
DATE 06/08/2000

CERTIFICATION FEE:
$ 768.00
DATE 10/31/06

11. TELEPHONE *(Include area code)*
202-783-6040

12. FAX *(Include area code)*
202-783-6031

13. E-MAIL
bnewland@rothwellfigg.com

14. CROP KIND *(Common Name)*
Potato

15. GENUS AND SPECIES NAME OF CROP
Solanum tuberosum

16. FAMILY NAME *(Botanical)*
Solanaceae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☒ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of Variety
d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☐ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☐ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 20 and 21 below)* ☒ NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? ☐ YES ☐ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☐ NO
IF YES, SPECIFY THE NUMBER 1, 2, 3, *etc.* ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☒ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
Thomas P. Schur			
NAME *(Please print or type)*		NAME *(Please print or type)*	
Thomas P. Schur			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Secretary, Recot, Inc.	June 7, 2000		

INSTRUCTIONS

200000268

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $3,652 ($432 filing fee and $3,220 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvpindex.htm

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 http://www.ams.usda.gov/lsg/seed.htm.

ITEM

19a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

20. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

23. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

24. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

22. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

N/A

23. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

N/A

24. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

N/A

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

2

EXHIBIT A. Origin and Breeding History of the Variety

The variety FL 1900 originated in the Frito-Lay, Inc., private potato breeding program. In 1990, a cross was made by Robert W. Hoopes at the Frito-Lay Research facility near Rhinelander, Wisconsin, between the varieties FL 1700 and S440. The variety FL 1700 was chosen as a breeding parent because of its excellent potato chip color, high solids, regular round tubers of the right size for chipping, resistance to common scab, and resistance to the "golden" cyst nematode, *Globodera rostochiensis* race RO1. S440, a University of Wisconsin breeding line, was chosen as a parent because of its desirable chip color, high solids content, and good tuber shape and size.

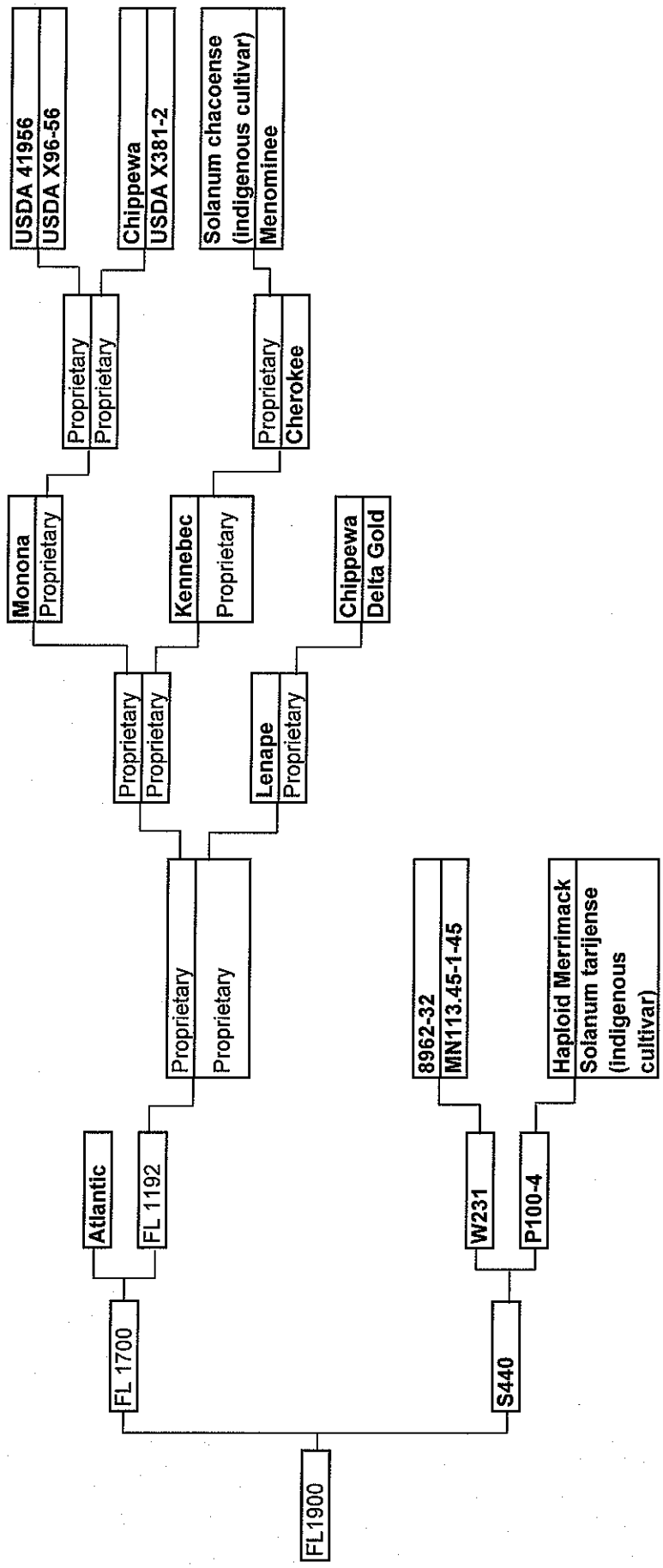
Seeds from the cross FL 1700 x S440 were sown in the greenhouse near Rhinelander in the summer of 1990 and the resulting tubers harvested in late fall of that year. Seedling tubers were planted in the field in the spring of 1991. One of the selections from this progeny was given the designation "RD 78-91-5." This selection was tested for four years in the fields in Rhinelander, with solids measurements taken and potato chip samples made after each harvest. RD 78-91-5 was found to have consistently good tuber type for shipping, high solids (usually higher than the variety 'Atlantic'), and good chip quality.

In 1995, RD 78-91-5 was given the number "FL 1900" and underwent experimental testing in the national variety trials conducted by Frito-Lay in Florida, Texas, California, New Mexico, North Dakota, Wisconsin, Michigan, and Maine. It has since been tested in the Advanced Clonal Evaluation program and found to be well-adapted to growing conditions for the spring crop in the Southeast, producing good yields, solids higher than those of Atlantic, lower internal defects than Atlantic, and good chip quality. FL 1900 has been tested by Dr. Bill Brodie of Cornell University in Ithaca, New York, and found to be resistant to the "golden" potato cyst nematode *Globodera rostochiensis* race RO1.

The variety FL 1900 has been uniform and stable since its origin as a single plant in 1991. No variants of FL 1900 have been observed.

Tissue culture plantlets of FL 1900 were established beginning in 1994 and are maintained at the Frito-Lay Research facility near Rhinelander, Wisconsin, with a duplicate maintained by the University of Wisconsin Biotron facility in Madison.

FL 1900 Pedigree



Trial Data for 'FL 1900'

Location	Yield	Solids
Davis, California	458	20.2
Holyoke, Colorado	278	17.1
Rochester, Indiana	205	18.2
Garden City, Kansas	356	18.9
Rhodesdale, Maryland	529	18.0
Cribou, Maine	264	20.1
Three Rivers, Michigan	414	18.5
Charleston, Missouri	200	16.3
Plymouth, North Carolina	252	15.9
Clovis, New Mexico	243	16.8
Clovis, New Mexico	264	16.3
Clovis, New Mexico	328	17.4
Hermiston, Oregon	438	18.5
Antigo, Wisconsin	443	19.3
Hancock, Wisconsin	414	18.9

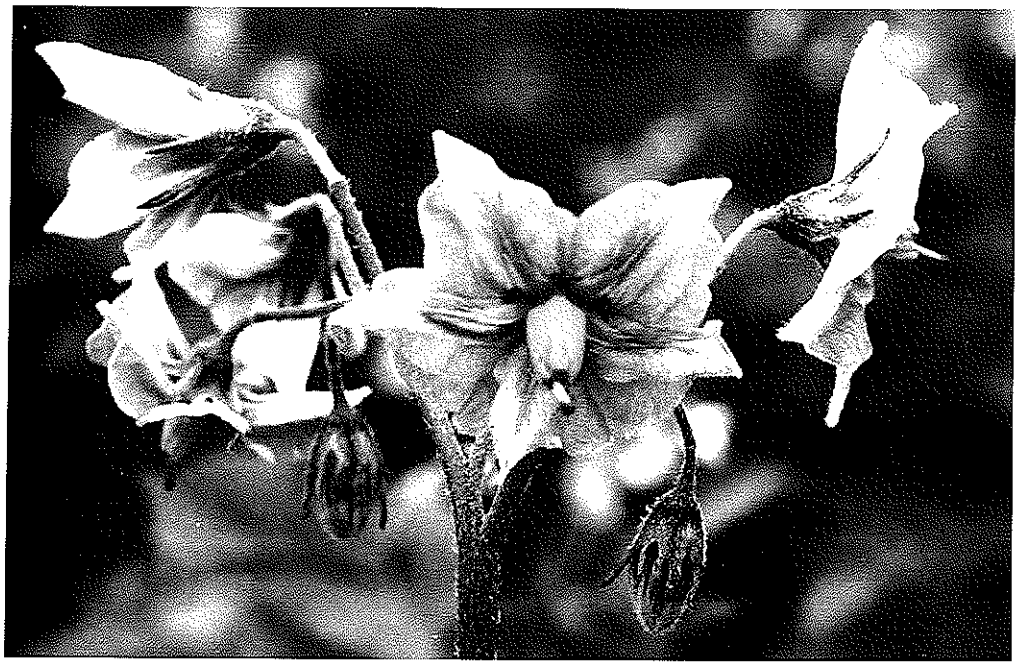
The data indicated above is from observation plots conducted by Frito-Lay in 1996. Frito-Lay North America, Inc. does not participate in the National Trial Test.

EXHIBIT B. Statement of Distinctness

As a chipping variety, FL 1900 is most similar to Atlantic. FL 1900 differs from Atlantic in that the corolla color of FL 1900 is a dark violet, RHS N88B, while the flower color of Atlantic is a light violet, RHS N82D. FL 1900 has more prominent white tips, whiter than RHS 155D, on the corolla and more prominent white stripes, whiter than RHS 155D, on the outer surface of the corolla extending from the tips towards the center, while Atlantic has RHS 155B white tips on the and RHS 155B white stripes on the corolla. Additionally, the stem anthocyanin of FL 1900 is a dark violet, RHS 86A to RHS 86B, than the stem anthocyanin of Atlantic, a faint violet of RHS N78B to RHS N78C.

The isozyme pattern of FL 1900, as established by Dr. David Douches of Michigan State University, is unique among known North American varieties. This is detailed in Exhibit D, Additional Description.

Comparison of Inner Surface of Corolla of 'FL 1900' with 'Atlantic'



'FL 1900'

'Atlantic'

NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY
Recot, Inc.	PVPO NUMBER 200000268
ADDRESS (*Street and No. or R.F.D. No., City, State, and Zip Code*) 5000 Hopyard Drive Suite 460 Pleasanton, CA 94588	VARIETY (V) NAME FL1900 TEMPORARY OR EXPERIMENTAL DESIGNATION RD 78-91-5

REFERENCE VARIETIES: Enter the reference variety name in the appropriate box

Reference Variety 1 (R1)	Reference Variety 2 (R2)	Reference Variety 3 (R3)	Reference Variety 4 (R4)
Atlantic			

1. MARKET CHARACTERISTICS:

MARKET CLASS:

1 = Yellow-flesh tablestock; 2 = Round-white tablestock; 3 = Chip-processing; 4 = Frozen-processing;
5 = Russet tablestock; 6 = Other_____.

V	R1	R2	R3	R4
3	3			

2. PLANT CHARACTERISTICS:

GROWTH HABIT: *(See figure 1)*
3 = Erect (>45° with ground); 5 = Semi-erect (30-45° with ground); 7 = Spreading.

V	R1	R2	R3	R4
5	5			

TYPE:
1 = Stem (foliage open, stems clearly visible); 2 = Intermediate; 3 = Leaf (Foliage closed, stems hardly visible)

V	R1	R2	R3	R4
2				

MATURITY: Days after planting (DAP) at vine senescence

V	R1	R2	R3	R4
105	100			

PLANTING DATE:

V	R1	R2	R3	R4
Mid-April 1997	April 1997			

LMC per letter 8/15/2006

REGION/AREA:

V	R1	R2	R3	R4
~~Maryland~~ North East	North East			

LMC per letter 8/15/2006

8

MATURITY CLASS:
1 = Very Early (<100 DAP); 2 = Early (100-110 DAP); 3 = Mid-season (111-120 DAP); 4 = Late (121-130 DAP); 5 = Very Late (>130 DAP).

V	R1	R2	R3	R4
2-3	2			

Inc per letter 8/15/2006

3. STEM CHARACTERISTICS: *Measure at early first bloom*

* STEM ANTHOCYANIN COLORATION:
1 = Absent; 3 = Weak; 5 = Medium; 7 = Strong; 9 = Very Strong

V	R1	R2	R3	R4
7	5			

STEM WINGS: *(See figure 12)*
1 = Absent; 3 = Weak; 5 = Medium; 7 = Strong; 9 = Very Strong

V	R1	R2	R3	R4
5	5			

4. LEAF CHARACTERISTICS:

LEAF COLOR: *(Observe fully developed leaves located on middle $^1/_3$ of plant)*
1 = Yellowish-green; 2 = Olive-green; 3 = Medium green; 4 = Dark green; 5 = Grey-green; 6 = Other_____

V	R1	R2	R3	R4
2	2			

LEAF COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart
(Observe fully developed leaves located on middle $^1/_3$ of plant & circle the appropriate color chart)

V	R1	R2	R3	R4
137A	137A			

LEAF PUBESCENCE DENSITY:
1 = Absent; 2 = Sparse; 3 = Medium; 4 = Thick; 5 = Heavy

V	R1	R2	R3	R4
5	7			

LEAF PUBESCENCE LENGTH:
1 = None; 2 = Short; 3 = Medium; 4 = Long; 5 = Very long

V	R1	R2	R3	R4

(Note: Descriptor #19 can be used to describe the type and length of the glandular trichomes observed.)

* LEAF SILHOUETTE: *(See figure 2)*
1 = Closed; 3 = Medium; 5 = Open

V	R1	R2	R3	R4
5	5			

PETIOLES ANTHOCYANIN COLORATION:
1 = Absent; 3 = Weak; 5 = Medium; 7 = Strong; 9 = Very Strong

V	R1	R2	R3	R4
3	1			

LEAF STIPULES SIZE: *(See figure 13)*
1 = Absent; 3 = Small; 5 = Medium; 7 = Large

V	R1	R2	R3	R4

TERMINAL LEAFLET SHAPE: *(See figure 3 & 11)*
1 = Narrowly ovate; 2 = Medium ovate; 3 = Broadly ovate; 4 = Lanceolate; 5 = Elliptical;
6= Obovate; 7 = Oblong; 8 = Other_____

V	R1	R2	R3	R4
2				

TERMINAL LEAFLET TIP SHAPE: *(See figure 4 & 11)*
1 = Acute; 2 = Cuspidate; 3 = Acuminate; 4 = Obtuse; 5 = Other_____

V	R1	R2	R3	R4
3				

* TERMINAL LEAFLET BASE SHAPE: *(See figure 5 & 11)*
1 = Cuneate; 2 = Acute; 3 = Obtuse; 4 = Cordate; 5 = Truncate; 6 = Lobed; 7 = Other_____

V	R1	R2	R3	R4
4	4			

* TERMINAL LEAFLET MARGIN WAVINESS:
1 = Absent; 2 = Slight; 3 = Weak; 4 = Medium; 5 = Strong

V	R1	R2	R3	R4
4	3			

NUMBER OF PRIMARY LEAFLET PAIRS: *(See figure 11)*

AVERAGE:

V	R1	R2	R3	R4
3				

RANGE:

V	R1	R2	R3	R4
to	to	to	to	to

PRIMARY LEAFLET TIP SHAPE: *(See figure 4 & 11)*
1 = Acute; 2 = Cuspidate; 3 = Acuminate; 4 = Obtuse; 5 = Other_____

V	R1	R2	R3	R4
3				

* PRIMARY LEAFLET SIZE:

1 = Very Small; 2 = Small; 3 = Medium; 4 = Large; 5 = Very Large

V	R1	R2	R3	R4
3	3			

PRIMARY LEAFLET SHAPE: *(See figure 3 & 11)*

1 = Narrowly ovate; 2 = Medium ovate; 3 = Broadly ovate; 4 = Lanceolate; 5 = Elliptical; 6= Obovate; 7 = Oblong; 8 = Other_____

V	R1	R2	R3	R4
2				

PRIMARY LEAFLET BASE SHAPE: *(See figure 5 & 11)*

1 = Cuneate; 2 = Acute; 3 = Obtuse; 4 = Cordate; 5 = Truncate; 6 = Lobed; 7 = Other_____

V	R1	R2	R3	R4
4				

NUMBER OF SECONDARY AND TERTIARY LEAFLET PAIRS: *(See figure 11)*

AVERAGE:

V	R1	R2	R3	R4
10				

RANGE:

V	R1	R2	R3	R4
8 to 10	to	to	to	to

5. INFLORESCENCE CHARACTERISTICS:

NUMBER OF INFLORESCENCE / PLANT:

AVERAGE:

V	R1	R2	R3	R4

RANGE:

V	R1	R2	R3	R4
to	to	to	to	to

NUMBER OF FLORETS / INFLORESCENCE:

AVERAGE:

V	R1	R2	R3	R4

RANGE:

V	R1	R2	R3	R4
to	to	to	to	to

* COROLLA INNER SURFACE COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart

(Measure predominant color of newly open flower & circle the appropriate color chart)

V	R1	R2	R3	R4
88B	82D			

11

* COROLLA INNER SURFACE COLOR: *(Measure predominant color of newly open flower)*
1 = White; 2 = Red-violet; 3 = Blue-violet; 4 = Other V=Violet R1=Purple-violet

V	R1	R2	R3	R4
4	4			

COROLLA SHAPE: *(See figure 6)*
1 = Very rotate; 2 = Rotate; 3 = Pentagonal; 4 = Semi-stellate; 5 = Stellate

V	R1	R2	R3	R4
3	4			

CALYX ANTHOCYANIN COLORATION:
1 = Absent; 3 = Weak; 5 = Medium; 7 = Strong; 9 = Very strong

V	R1	R2	R3	R4
5	1			

ANTHER COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart
(Measure when newly opened flower is fully expanded and circle the appropriate color chart)

V	R1	R2	R3	R4
14A	2A			

ANTHER SHAPE: *(See figure 7)*
1 = Broad cone; 2 = Narrow cone; 3 = Pear shape cone; 4 = Loose; 5 = Other_____

V	R1	R2	R3	R4
2	3			

POLLEN PRODUCTION:
1 = None; 3 = Some; 5 = Abundant

V	R1	R2	R3	R4
5	3			

STIGMA SHAPE: *(See figure 8)*
1 = Capitate; 2 = Clavate; 3 = Bi-lobed

V	R1	R2	R3	R4
1				

STIGMA COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart
(Circle the appropriate color chart)

V	R1	R2	R3	R4
137A				

BERRY PRODUCTION: *(Under field conditions)*
1 = None; 3 = Low; 5 = Moderate; 7 = Heavy; 9 = Very heavy

V	R1	R2	R3	R4
5	5			

5. TUBER CHARACTERISTICS:

* PREDOMINANT SKIN COLOR:

1 = White; 2 = Light Yellow; 3 = Yellow; 4 = Buff; 5 = Tan; 6 = Brown; 7 = Pink; 8 = Red; 9 = Purplish-red; 10 = Purple; 11 = Dark purple-black; 12 = Other_____

V	R1	R2	R3	R4
6	6			

PREDOMINANT SKIN COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart
(Circle the appropriate color chart)

V	R1	R2	R3	R4
199B				

SECONDARY SKIN COLOR:

1 = Absent; 2 = Present, please describe: _____

V	R1	R2	R3	R4

SECONDARY SKIN COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart
(Circle the appropriate color)

V	R1	R2	R3	R4

SECONDARY SKIN COLOR DISTRIBUTION:

1 = Eyes; 2 = Eyebrows; 3 = Splashed; 4 = Scattered; 5 = Spectacled; 6 = Stippled; 7 = Other_____

V	R1	R2	R3	R4

SKIN TEXTURE:

1 = Smooth; 2 = Rough (flaky); 3 = Netted; 4 = Russetted; 5 = Heavily russetted; 6 = Other_____

V	R1	R2	R3	R4
3				

* TUBER SHAPE: *(See figure 10)*

1 = Compressed; 2 = Round; 3 = Oval; 4 = Oblong; 5 = Long; 6 = Other_____

V	R1	R2	R3	R4
2-3	3			

TUBER THICKNESS:

1 = Round; 2 = Medium thick; 3 = Slightly flattened; 4 = Flattened; 5 = Other_____

V	R1	R2	R3	R4
3				

TUBER LENGTH (mm):

AVERAGE:

V	R1	R2	R3	R4
77.5	75			

RANGE:

V	R1	R2	R3	R4
62 to 106	51 to 115	to	to	to

STANDARD DEVIATION:

V	R1	R2	R3	R4
9.2	14.8			

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	R1	R2	R3	R4

TUBER WIDTH (mm):

AVERAGE:

V	R1	R2	R3	R4
60.6	64			

RANGE:

V	R1	R2	R3	R4
44 to 75	47 to 86	to	to	to

STANDARD DEVIATION:

V	R1	R2	R3	R4
5.2	9.1			

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	R1	R2	R3	R4

TUBER THICKNESS (mm):

AVERAGE:

V	R1	R2	R3	R4
45	51			

RANGE:

V	R1	R2	R3	R4
38 to 53	35 to 66	to	to	to

STANDARD DEVIATION:

V	R1	R2	R3	R4
3.5	6.7			

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	R1	R2	R3	R4

TUBER EYE DEPTH:

1 = Protruding; 2 = Shallow; 3 = Intermediate; 4 = Deep; 5 = Very deep

V	R1	R2	R3	R4
2	3			

14

TUBER LATERAL EYES
1 = Protruding; 2 = Shallow; 3 = Intermediate; 4 = Deep; 5 = Very deep

V		R1		R2		R3		R4	

NUMBER EYE / TUBER:

AVERAGE:

V	5	R1	3	R2		R3		R4	

RANGE:

V	to	R1	to	R2	to	R3	to	R4	to

DISTRIBUTION OF TUBER EYES:
1 = Predominantly apical; 2 = Evenly distributed

V	1	R1		R2		R3		R4	

PROMINENCE OF TUBER EYEBROWS:
1 = Not prominent; 2 = Slight prominence; 3 = Medium prominence; 4 = Very prominent; 5 = Other_____

V	1	R1	1	R2		R3		R4	

* PRIMARY TUBER FLESH COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart
(Circle the appropriate color chart)

V	155A	R1	158B	R2		R3		R4	

SECONDARY TUBER FLESH COLOR:
1 = Absent; 2 = Present, please describe: _____

V		R1		R2		R3		R4	

SECONDARY TUBER FLESH COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart
(Circle the appropriate color chart)

V		R1		R2		R3		R4	

NUMBER OF TUBERS / PLANT:
1 = Low (<8); 2 = Medium (8 -15); 3 = High (>15)

V	2	R1	2	R2		R3		R4	

slightly lowerset

6. DISEASES CHARACTERISTICS:

DISEASES REACTION: 0 = NOT TESTED; 1 = RESISTANT; 3 = MODERATELY RESISTANT; 5 = MODERATELY SUSCEPTIBLE; 7=SUSCEPTIBLE; 9=HIGHLY SUSCEPTIBLE

BACTERIAL RING ROT, FOLIAR REACTION:

V	R1	R2	R3	R4
7				

BACTERIAL RING ROT, TUBER REACTION:

V	R1	R2	R3	R4
7				

LATE BLIGHT:

V	R1	R2	R3	R4
~~9~~ 7	7			

LMC per letter 8/15/2006

PLRV (LEAF ROLL):

V	R1	R2	R3	R4
0				

LMC per letter 8/15/2006

PVX:

V	R1	R2	R3	R4

PVY:

V	R1	R2	R3	R4
9				

OTHER: Soft Rot

V	R1	R2	R3	R4
6	7-8			

LMC per letter 8/15/2006

OTHER: _____

V	R1	R2	R3	R4

7. PESTS CHARACTERISTICS:

PEST REACTION: 0 = NOT TESTED; 1 = RESISTANT; 3 = MODERATELY RESISTANT; 5 = MODERATELY SUSCEPTIBLE; 7=SUSCEPTIBLE; 9=HIGHLY SUSCEPTIBLE

GOLDEN NEMATODE:

V	R1	R2	R3	R4
1				

OTHER: _____

V	R1	R2	R3	R4

8. GENE TRAITS:

INSERTION OF GENES: ☐ YES ☒ NO

If YES, describe the gene(s) introduced or attach information:

16

8. DISEASES CHARACTERISTICS: (continued)

20000268

POTATO VIRUS X (PVX)

V	R1	R2	R3	R4
0				

POTATO VIRUS Y (PVY)

V	R1	R2	R3	R4
0				

POTATO VIRUS M (PVM)

V	R1	R2	R3	R4
0				

POTATO VIRUS A (PVA)

V	R1	R2	R3	R4
0				

GOLDEN NEMATODE (Globodera)

V	R1	R2	R3	R4
1	1			

ROOT – KNOT NEMATODE (Meloidogyne)

V	R1	R2	R3	R4
0				

OTHER DISEASE _____

V	R1	R2	R3	R4

PHYSIOLOGICAL DISORDER

1 = Malformed shape 2 = Tuber cracking 3 = Feathering 4 = Hollow heart 5 = Internal necrosis
6 = Blackheart 7 = Internal sprouting 8 = Other _____

V	R1	R2	R3	R4

9. PESTS CHARACTERISTICS:

PEST REACTION: 0 = Not Tested 1 = Highly Resistant 2 = Resistant Few Symptoms 3 = Resistance Few Lessions in Number and Size
4 = Moderately Resistance 5 = Intermedia Susceptible 6 = Moderate Susceptible
7 = Susceptible 9 = Highly Susceptible

COLORADO POTATO BEETLE (CPB) (*Leptinotarsa*)

V	R1	R2	R3	R4

GREEN PEACH APHID (*Myzus*)

V	R1	R2	R3	R4

OTHER:

V	R1	R2	R3	R4

OTHER:

V	R1	R2	R3	R4

17

9. QUALITY CHARACTERISTICS:

CHIEF MARKET:

Processing to make potato chips

SPECIFIC GRAVITY (wt. air /wt. air - wt. water)
1 < 1.060; 2 = 1.060-1.069; 3 = 1.070-1.079; 4 = 1.080-1.089; 5 > 1.090

V	4	R1		R2		R3		R4	

TOTAL GLYCOALKALOID CONTENT (mg. / 100 g. fresh tuber)

V	8.2	R1	9.2	R2		R3		R4	

OTHER QUALITY CHARACTERISTICS: Describe any other quality characteristics that may aid in identification, (e.g. chip-processing, french fry processing, baking, boiling, after-cooking darkening). Please attach data and corresponding protocol.

11. CHEMICAL IDENTIFICATION:

Describe chemical traits of the candidate variety that aid in its identification (e.g. protein or DNA electrophoresis). Please attach data and the corresponding protocol.

See Exhibit D

12. ADDITIONAL COMMENTS AND CHARACTERISTICS:

Include any additional descriptors that would be useful in distinguishing the candidate variety.

18

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME

ADDRESS *(Street and No. or RD No., City, State, Zip Code, and Country)*	FOR OFFICIAL USE ONLY
	PVPO NUMBER

REFERENCE VARIETIES: Enter the reference variety name in the appropriate box.

Application Variety (V)	Reference Variety 1 (R1)	Reference Variety 2 (R2)	Reference Variety 3 (R3)	Reference Variety 4 (R4)

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

1. MARKET CHARACTERISTICS: 200000268

***MARKET CLASS:**
1 = Yellow-flesh Tablestock 2 = Round-white Tablestock 3 = Chip-processing 4 = Frozen-processing
5 = Russet Tablestock 6 = Other _____

V		R1		R2		R3		R4	

2. LIGHT SPROUT CHARACTERISTICS: (See Figure 1) Comparison Variety = Atlantic

***LIGHT SPROUT: GENERAL SHAPE**
1 = Spherical 2 = Ovoid 3 = Conica 4 = Broad cylindrica 5 = Narrow cylindrical 6 = Other _____

V	3	R1	4	R2		R3		R4	

***LIGHT SPROUT BASE: PUBESCENCE OF TIP**
1 = Absent 2 = Weak 3 = Medium 4 = Strong 5 = Very Strong

V	3	R1	3	R2		R3		R4	

***LIGHT SPROUT BASE: ANTHOCYANIN COLORATION**
1 = Green 2 = Red-violet 3 = Blue-violet 4 = Other(describe) _____

V	3	R1	2	R2		R3		R4	

***LIGHT SPROUT BASE: INTENSITY OF ANTHOCYANIN COLORATION (IF PRESENT)**
1 = Absent 2 = Weak 3 = Medium 4 = Strong 5 = Very Strong

V	5	R1	5	R2		R3		R4	

***LIGHT SPROUT TIP: HABIT**
1 = Closed 2 = Intermediate 3 = Open

V	1	R1	2	R2		R3		R4	

19

2. **LIGHT SPROUT CHARACTERISTICS:** (continued)

200000200

LIGHT SPROUT TIP: PUBESCENCE
1 = Absent 2 = Weak 3 = Medium 4 = Strong 5 = Very Strong

V	R1	R2	R3	R4
1	1			

LIGHT SPROUT TIP ANTHOCYANIN COLORATION
1 = Green 2 = Red-violet 3 = Blue-violet 4 = Other(describe) _____

V	R1	R2	R3	R4
3	1			

LIGHT SPROUT TIP: INTENSITY OF ANTHOCANIN COLORATION (IF PRESENT)
1 = Absent 2 = Weak 3 = Medium 4 = Strong 5 = Very Strong

V	R1	R2	R3	R4
5	1			

LIGHT SPROUT ROOT INITIALS: FREQUENCY
1 = Short 2 = Medium 3 = Long

V	R1	R2	R3	R4
2	2/2.5			

3. **PLANT CHARACTERISTICS:**

GROWTH HABIT: (See Figure 2)
3 = Erect (>45° with ground) 5 = Semi-erect (30-45° with ground) 7 = Spreading

V	R1	R2	R3	R4

TYPE:
1 = Stem (foliage open, stems clearly visible) 2 = Intermediate 3 = Leaf (Foliage closed, stems hardly visible)

V	R1	R2	R3	R4

MATURITY: Days after planting (DAP) at vine senescence

V	R1	R2	R3	R4

PLANTING DATE:

V	R1	R2	R3	R4

***REGIONAL AREA:**
1 = Pacific North West (WA, OR, ID, CO, CA) 2 = North Central (ND, WI, MI, MN, OH) 3 = North East (ME, NY, PA, NJ, MD, MA, RI,)
4 = Mid-Atlantic Erect (VI, NC, SC, South NJ, FL) 5 = South (LA, TX, AZ, NE) 6 = Canada
7 = Europe 8 = England 9 = Latin America 10 = Brazil 11 = Other _____

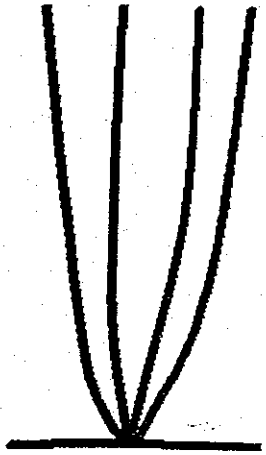
V	R1	R2	R3	R4

MATURITY CLASS:
1 = Very Early (<100 DAP) 2 = Early (100-110 DAP) 3 = Mid-season (111-120 DAP) 4 = Late (121-130 DAP) 5 = Very Late (>130 DAP).

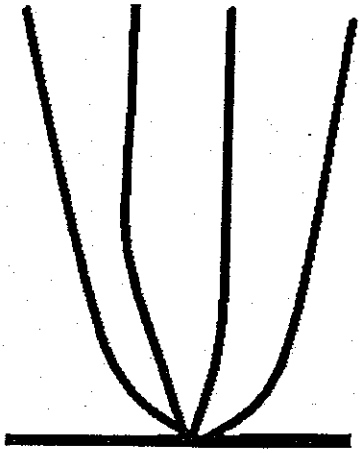
V	R1	R2	R3	R4

20

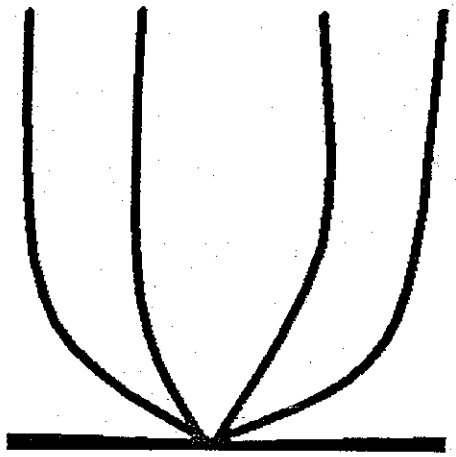
Figure 1: Growth Habit



3 = Erect
$>45^0$ with ground

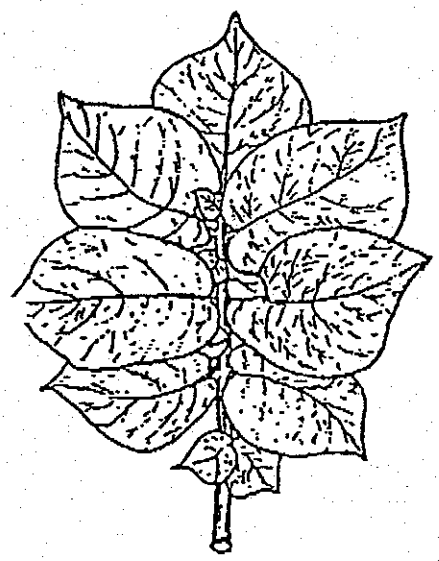


5 = Semi-erect
$30\text{-}45^0$ with ground

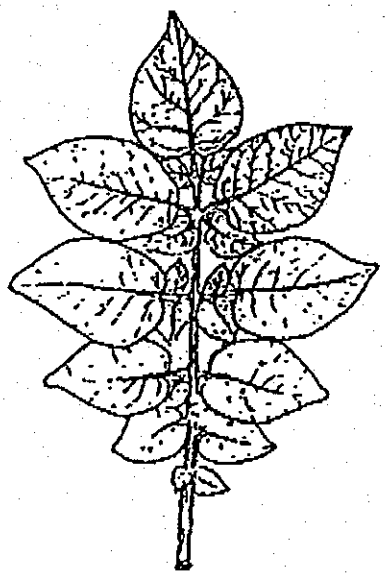


7 = Spreading
$<30^0$ with ground

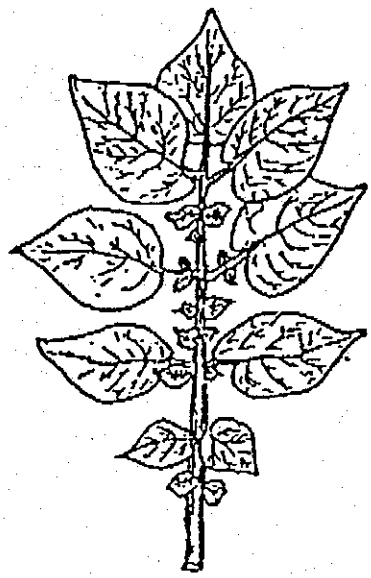
Figure 2: Leaf Silhouette



1 = Closed

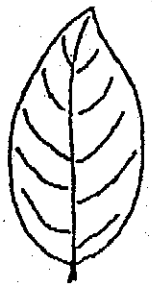


3 = Medium

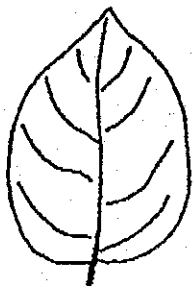


5 = Open

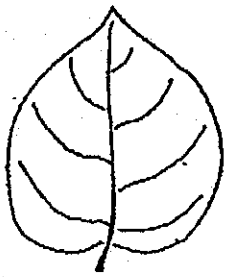
Figure 3: Terminal Leaflet Shape / Primary Leaflet Shape



1=Narrowly Ovate

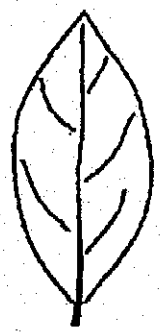


2=Medium Ovate

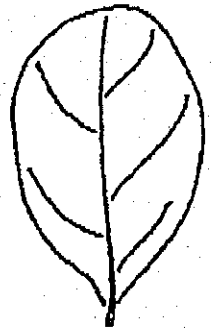


3=Broadly Ovate

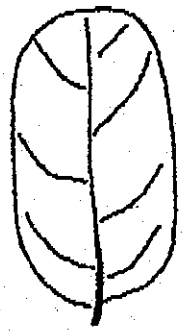
4=Lanceolate



5=Elliptical

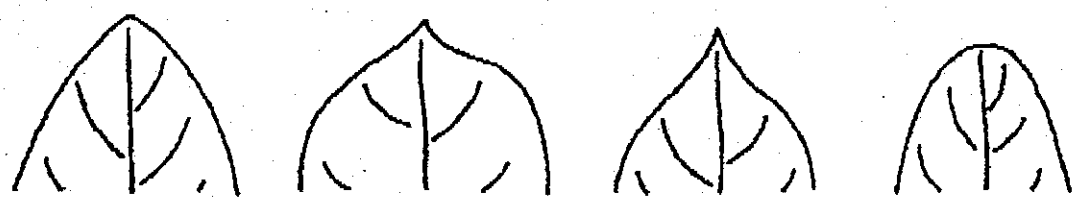


6=Obovate



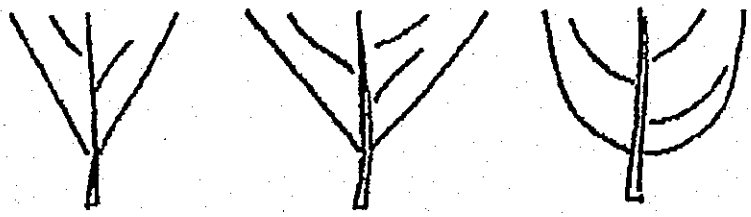
7=Oblong

Figure 4: Terminal Leaflet Shape of Tip / Primary Leaflet Shape of Tip

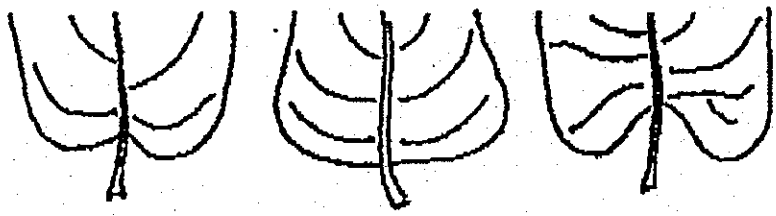


1=Acute 2=Cuspidate 3=Acuminate 4=Obtuse

Figure 5: Terminal Leaflet Shape of Base / Primary Leaflet Shape of Base

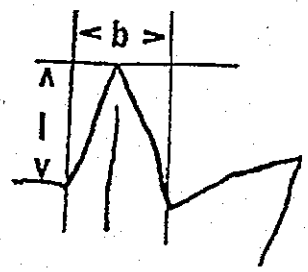


1=Cuneate 2=Acute 3=Obtuse

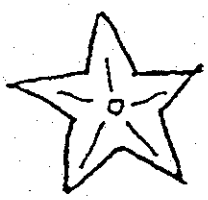


4=Cordate 5=Truncate 6=Lobed

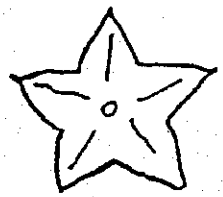
Figure 6: Corolla Shape



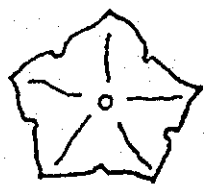
o



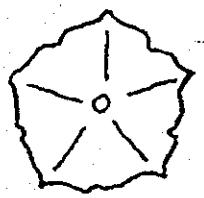
stellate
l > b



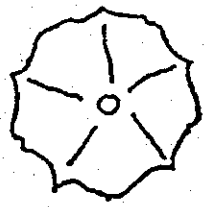
semi-stellate
l = b



pentagonal
l < b

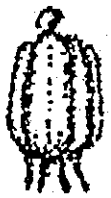


rotate
l << b



very rotate
l <<< b

Figure 7: Anther Shape



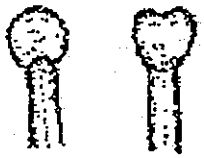
1=Broad cone

2=Narrow cone

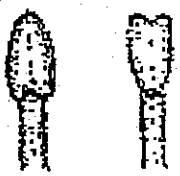
3=Pear shape cone

4=Loose

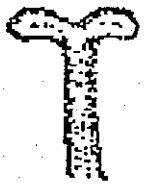
Figure 8: Stigma Shape



1=Capitate

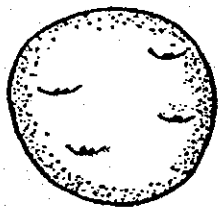


2=Clavate

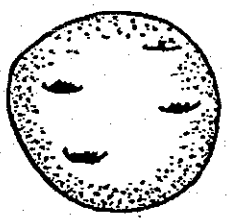


3=Bilobed

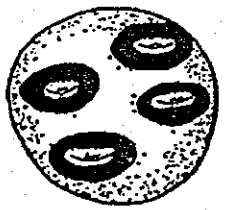
Figure 9: Distribution of Secondary Tuber Color



1=Eyes

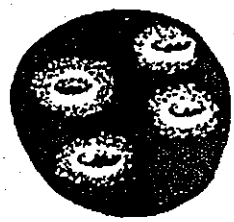


2=Eyebrows



3=Splashed

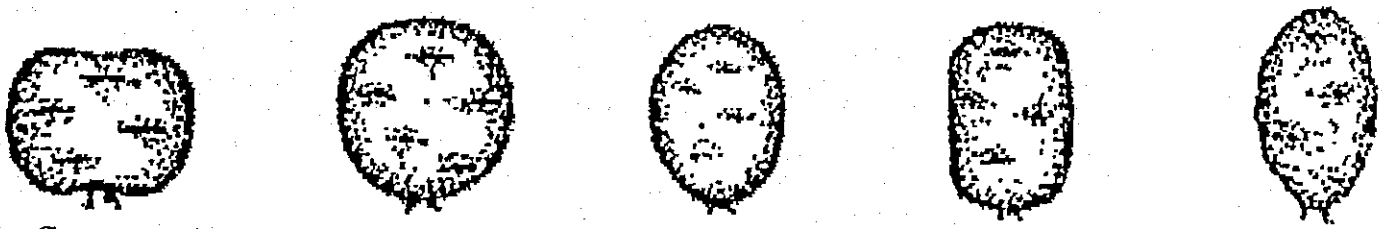
4=Scattered



5=Spectacled

6=Stippled

Figure 10: Tuber Shape



1=Compressed 2=Round 3=Oval 4=Oblong 5=Long

Figure 11: Leaf Dissection

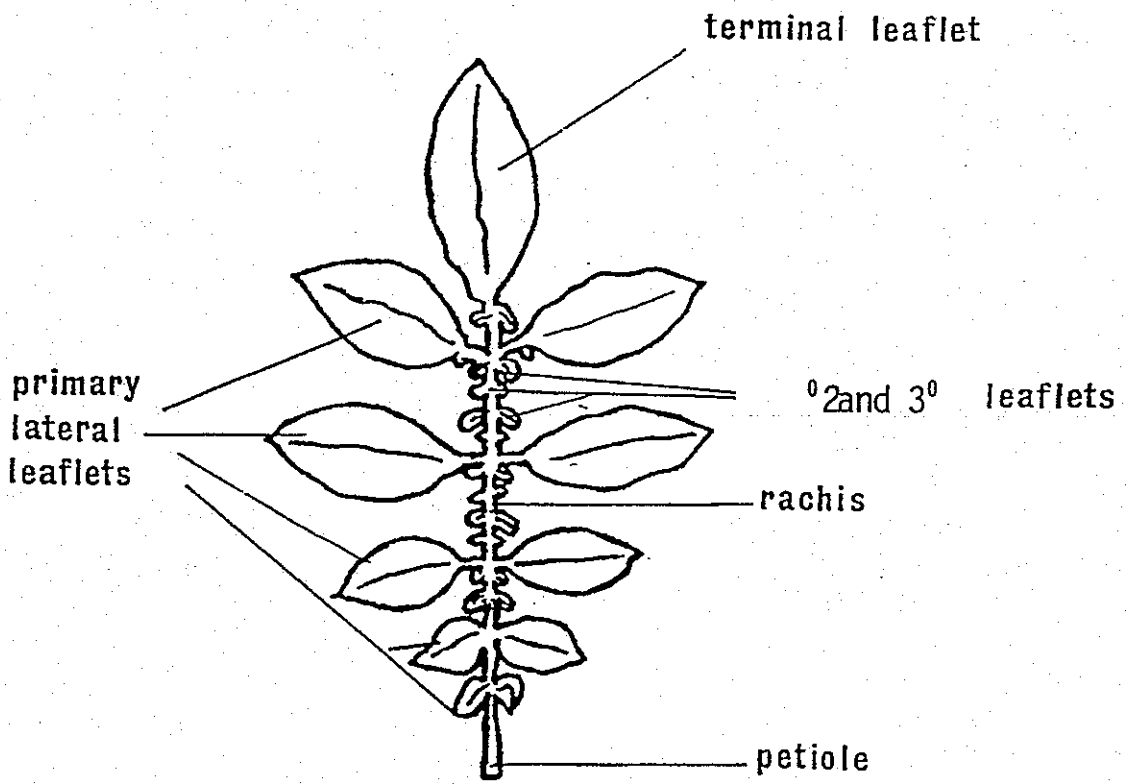


Figure: 12 Stem Wings

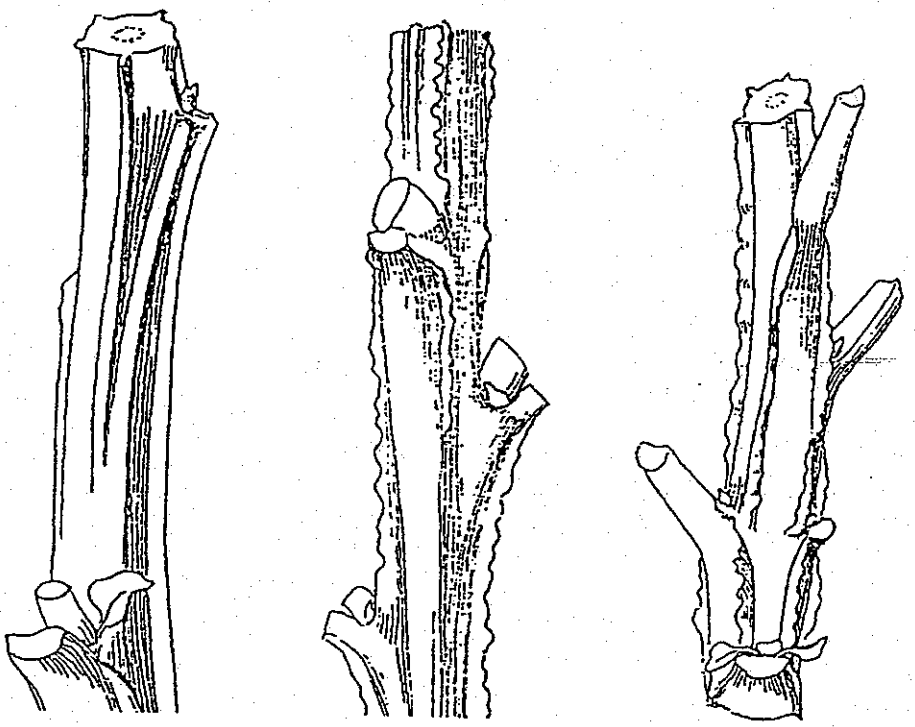


Figure 13: Leaf Stipules:

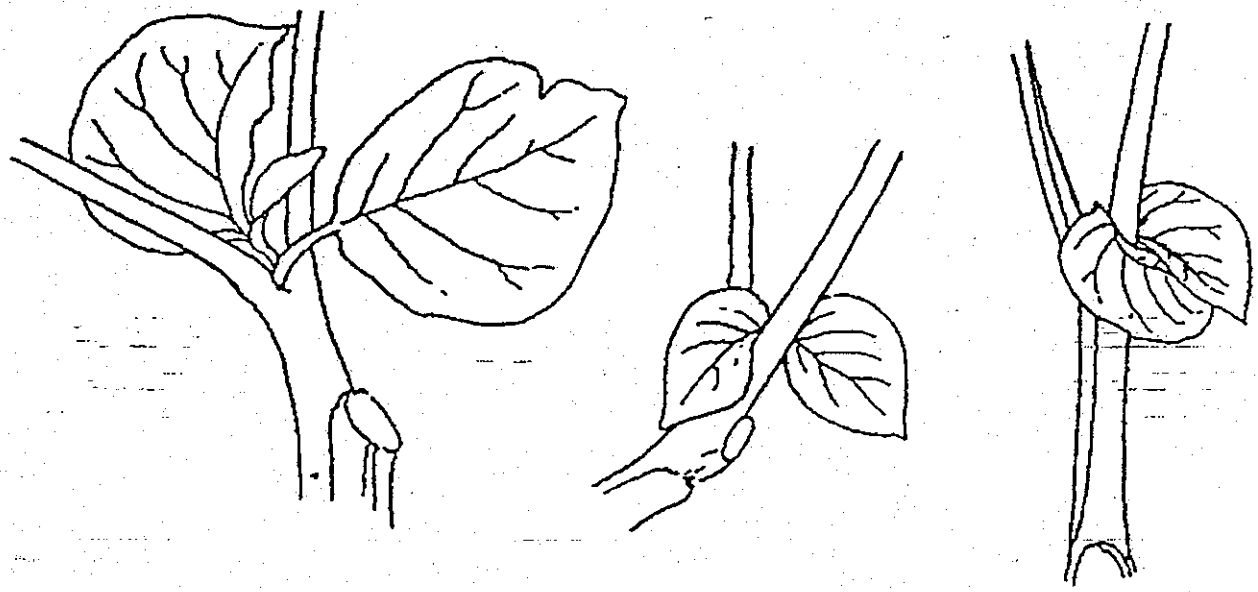


EXHIBIT D. Additional Description of the Variety

1) Isozyme fingerprint of FL 1900, with reference to methodology. Comparison of fingerprint of FL 1900 with that of Atlantic, showing distinct patterns for each variety (Exhibit D-1).

2) Summary of 100-tuber sample of tuber dimensions of FL 1900 compared to 100 tubers of Atlantic

EXHIBIT D-1

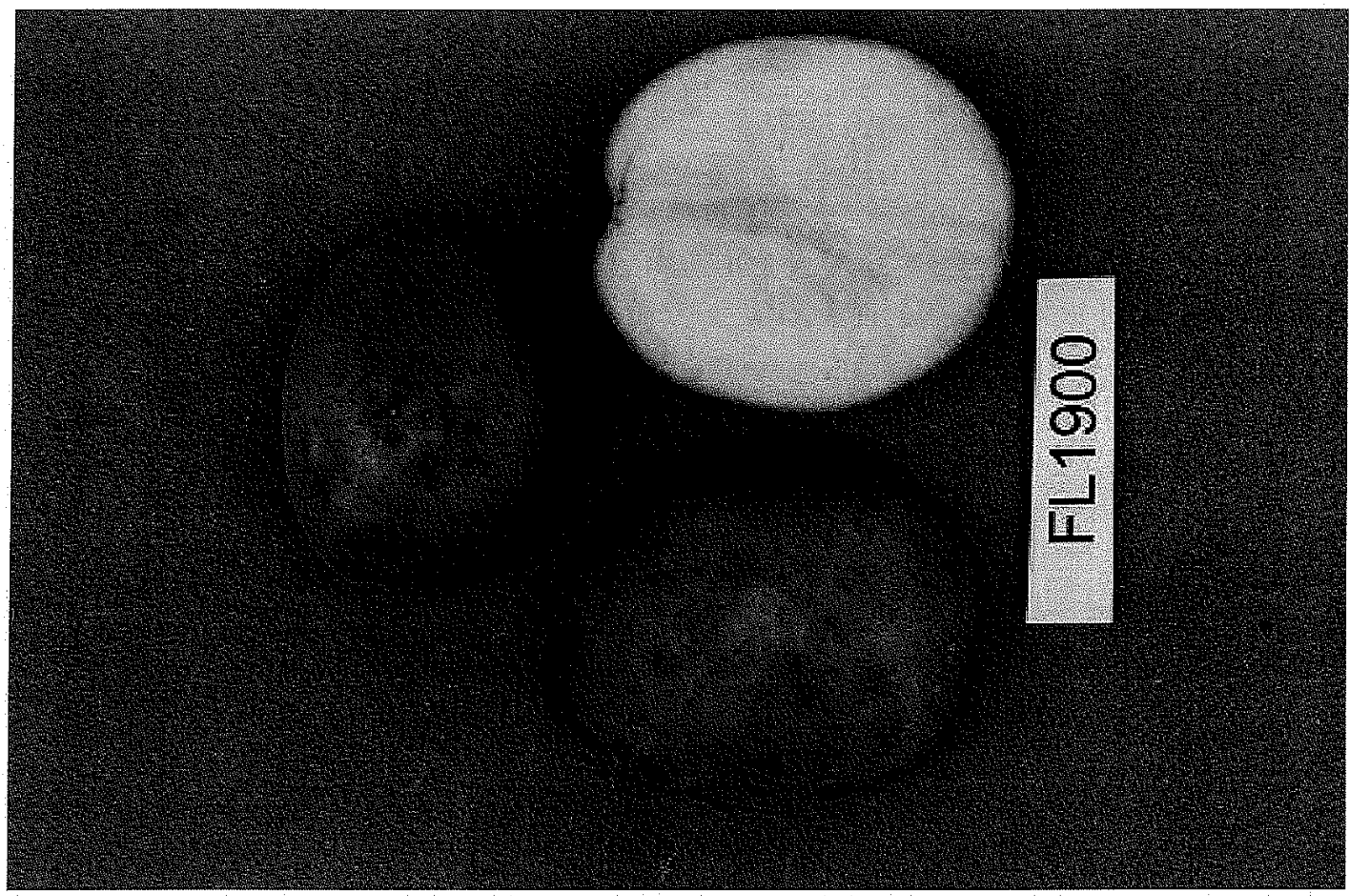
Isozyme electrophoresis fingerprints of FL 1900 compared to Atlantic

Variety	Mdh-1	Mdh-2	6-Pgdh-3	Idh-1	Pgi-1	Aps-1	Got-1	Got-2	Pgm-1	Pgm-2	Dia-1	Prx-1	Prx-3	Adh-1
Atlantic	2223	2223	1122	1112	2222	1111	4444	3555	1112	2223	1112	1144	--	2222
FL1900	2244	2222	1122	--	2222	--	3344	3335	1223	2233	--	--	1112	--

Source of Data: Dr. David Douches, Michigan State University, 1995

Procedures and allelic designations used are according to Douches, D.S. and K. Ludlam. 1991. Electrophoretic Characterization of North American Potato Cultivars. Am. Potato J. 68:767-780.

2000000268


FL1900

REPRODUCE LOCALLY. Include form number and edition date on all reproductions. FORM APPROVED - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Frito-Lay North America, Inc. BPA 5/2/05	RD 78-91-5	FL 1900
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	**5. TELEPHONE** *(Include area code)*	**6. FAX** *(Include area code)*
7701 Legacy Drive Plano, Texas 75024 BPA 5/2/05	972-334-3822	972-334-5965
	7. PVPO NUMBER 200000268, 'FL 1900'	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** [X] **YES** [ ] **NO**

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? **If no, give name of country.** [X] **YES** [ ] **NO**

10. Is the applicant the original owner? [ ] **YES** [X] **NO** **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
[X] **YES** [ ] **NO** **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
[ ] **YES** [ ] **NO** **If no, give name of country**

11. Additional explanation on ownership *(If needed, use the reverse for extra space)*:

The original owner (the breeder) assigned his entire rights, pursuant to his obligations under his employment contract to Frito-Lay, Inc., which in turn, pursuant to contractual obligation, assigned its entire rights to Recot, Inc.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) ot the Plant Variety Protection Act for definitions.

EXHIBIT E. Statement of the Applicant's Ownership

The variety FL 1900 for which Plant Variety Protection is hereby sought was developed by a breeder employed by Recot, Inc., who has assigned all rights to inventions and discoveries made by him to Recot, Inc., with no ownership rights of any kind retained by the breeder.

EXHIBIT F. Deposit Statement

Upon issuance of the Plant Variety Protection Certificate for FL 1900, applicant will deposit tissue culture plantlets of this variety in a public repository.

REPRODUCE LOCALLY. Include form number and date on all reproductions. Form Approved OMB NO 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT F
DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S)	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	TEMPORARY OR EXPERIMENTAL DESIGNATION
Frito-Lay North America, Inc.	7701 LEGACY DRIVE PLANO, TX 75024	1991 78.05
		VARIETY NAME FL 1900
NAME OF OWNER REPRESENTATIVE (S)	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	FOR OFFICIAL USE ONLY
Jondle & Associates, PC	858 HAPPY CANYON RD CASTLE ROCK, CO 80108	PVPO NUMBER 200000268

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Robert W Hoppus
Signature

7/10/06
Date

34